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ABSTRACT

After the first semester of 1969-70, 413 freshmen who had entered the University of Wisconsin-Stevens Point in the fall were placed on academic probation with grade point ratios (GPR) ranging from 0.75 to 1.59. After 3 semesters, 73 or 17.7% had cleared probation and another 5% were still on probation. The rest had dropped from school or were suspended. This study was made to determine tha chances of survival for such probationary students, and to find which student characteristics are related to survival. Sex, ACT tests, college of first entrance, and year of birth were found not to be significantly related to academic survival. High school class size was highly predictive of success in clearing probation, with students from class size 51-100 most likely to clear probation, and students from class size 101-250 least likely. The GPR for the first semester in school was also an important indicator. Only about 6% of the students with GPR below 1.00 for the first semester were able to clear probation in 3 semesters. The percentage improved to 26.8% for those whose first semester GPR was 1.40 to 1.59. (HS)

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SERIES NO. 1

DATE January, 1972

Office of Institutional Research

Characteristics of Probation Freshmen Related to Academic Success

High School Rank
High School Class Size
ACT Test Scores
Sex
College of Enrollment
Year of Birth
First Semester GPR

WHO CLEARS PROBATION?

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OFFICE OF INSTITUTIONAL RESEARCH
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INTRODUCTION

The Office of Admissions at UW-Stevens Point undertook a longitudinal study of low-achieving freshmen who entered in the fall of 1969 in order to test the validity of a new admissions standard. Currently, entering freshmen need to earn a grade point ratio of 0.75 or higher during their first semester, and 1.60 (cumulative) for the first two semesters in order to avoid academic suspension by the end of the first year of college. The entering class in the fall of 1969 produced 411 students whose GPR after one semester was 0.75 or higher but below 1.60. These were identified as the probation students. Those whose GPR's were below 0.75 were of course dropped. The 411 probation students are the population being studied. Their subsequent GPR's, their high school ranks by academic categories, their ACT percentile ranks, and certain other characteristics are analyzed for some way identifying the ultimately successful students in contrast to those who will not complete college work.

The data for this investigation were obtained by the Office of Admissions which began the analyses. The data and analysis tables were then turned over to the Office of Institutional Research which completed the study.

Grade Point Ratio Distributions

Table 1 shows the categorized grade point distributions of the 411 entering freshmen who were placed on probation after one semester because of grade points between 0.75 and 1.59. When these grade points are averaged by the grouped data method the mean is found to be 1.26. The second semester cumulative distribution ranges from as low as the 0.40-0.44 category to the 2.60-2.64 category, with only 13 cases above 2.14. Some 42 of the students had dropped from school during the second semester with no GPR registered. Thus it can be seen that 10.2 per cent of the probation students did not complete a second semester. The average grade-point of the remaining 369 students was 1.42. However, a total of 238 of these students had cumulative GPR's for two semesters of less than 1.60 each. More than 68 per cent of the students who survived the first semester failed to survive the second semester with a GPR as high as 1.60, and only 31.9% were "in the clear" (above 1.60) at the end of the second semester.

Table 2 shows the GPR distributions for the probation students (as determined after one semester) who survived to semesters 2 and 3, on a semester only basis (not cumulative). Here we see that 359 students completed the second semester, and their average GPR's come to 1.60 - the exact minimum for survival - for the second semester. Of these 359, there were 161 or 44.8% who earned a GPR of less than 1.60 for the second semester alone.

Only 173 of these students survived to the end of the third semester of work, as shown in Table 2. This more select group earned GPR's averaging only 1.78, with only 73 averaging 2.00 or better for the third semester only. In fact, 61 or 35.3% had earned a GPR below 1.60 for the third semester. Thus at the end of three semesters, 64 students were "clear" (not on probation), 21 were on probation, and 88 were suspended. In summary, only 64 of the 411 students not dropped but placed on probation after one semester had survived with clear records after three semesters. Another 21 were still on probation. Expressed in percentages, 15.6% of the probation

students survived and were in the clear after three semesters, and when students still on probation are included, only 20.7% survived. We can observe that when probation status is set as low as 0.75 GPR after one semester, only one in five will survive for as long as three semesters. Not even one student in six will be "in the clear."

TABLE 1

Grade Point Ratio Distributions, Semesters 1 and 2, For Freshmen Entering Fall, 1969, Who Were Probation Students After First Semester

GPR Category	GPR, Semester 1	GPR, Semester 2
2.60 - 2.64		1
2.50 - 2.54		1
2.40 - 2.44		1
2.25 - 2.29		2
2.20 - 2.24		3
2.15 - 2.19		5
2.10 - 2.14		2
2.05 - 2.09		3
2.00 - 2.04		14
1.95 - 1.99		7
1.90 - 1.94		14
1.85 - 1.89		4
1.80 - 1.84		16
1.75 - 1.79		10
1.70 - 1.74		17
1.65 - 1.69		18
1.60 - 1.64		13
1.55 - 1.59	27	18
1.50 - 1.54	57	13
1.45 - 1.49	33	19
1.40 - 1.44	39	18
1.35 - 1.39	15	12
1.30 - 1.34	28	18
1.25 - 1.29	40	16
1.20 - 1.24	31	15
1.15 - 1.19	15	12
1.10 - 1.14	16	9
1.05 - 1.09	29	8
1.00 - 1.04	16	12
0.95 - 0.99		7
0.90 - 0.94	22	16
0.85 - 0.89	14	8

Table 1, Continued

GPR Category	GPR, Semester 1	GPR, Semester 2	
0.80 - 0.84	21	9	
0.75 - 0.79	8	7	
0.70 - 0.74		7	
0.65 - 0.69		3	
0.60 - 0.64		3	
0.55 - 0.59		5	
0.50 - 0.54		-	
0.45 - 0.49		1	
0.40 - 0.44		2	
Dropped		42	
TOTALS:	411	411	
Mean GPR	1.26	1.42*	5232.3/369

*Excludes 42 Drops

TABLE 2

Grade Point Ratio Distributions, Semesters 2 and 3, For 1969 Freshmen on Probation After One Semester

GPR Category	GPR, Semester 2	GPR, Semester 3
3.60 - 3.64		2
3.30 - 3.34		1
3.25 - 3.29		1
3.10 - 3.14		1
3.05 - 3.09	1	
3.00 - 3.04	4	
2.95 - 2.99		
2.90 - 2.94	1	1
2.85 - 2.89	3	1
2.80 - 2.84	1	
2.75 - 2.79	3	2
2.70 - 2.74		1
2.65 - 2.69	4	4
2.60 - 2.64	5	1
2.55 - 2.59	5	2
2.50 - 2.54	6	8
2.45 - 2.49	5	2
2.40 - 2.44	7	7
2.35 - 2.39		1
2.30 - 2.34	10	4
2.25 - 2.29	12	3
2.20 - 2.24	7	6
2.15 - 2.19	6	
2.10 - 2.14	3	3
2.05 - 2.09	13	13
2.00 - 2.04	15	9
1.95 - 1.99		
1.90 - 1.94	8	5
1.85 - 1.89	11	2
1.80 - 1.84	8	5
1.75 - 1.79	13	5
1.70 - 1.74	11	5

Table 2, Continued

GPR Category	GPR, Semester 2	GPR, Semester 3
1.65 - 1.69	14	5
1.60 - 1.64	10	12
1.55 - 1.59	2	8
1.50 - 1.54	11	7
1.45 - 1.49	7	3
1.40 - 1.44	9	4
1.35 - 1.39	6	5
1.30 - 1.34	5	1
1.25 - 1.29	11	2
1.20 - 1.24	9	2
1.15 - 1.19	6	1
1.10 - 1.14	8	2
1.05 - 1.09	2	4
1.00 - 1.04	8	2
.95 - .99		
.90 - .94	9	1
.85 - .89	2	
.80 - .84	3	2
.75 - .79	4	1
.70 - .74	3	1
.65 - .69	7	1
.60 - .64	4	1
.55 - .59	6	
.50 - .54	4	3
.45 - .49	1	1
.40 - .44	5	1
.35 - .39	1	1
.30 - .34	3	2
.25 - .29	1	
.20 - .24	2	1
.15 - .19		
.10 - .14	1	
.05 - .09		
.00 - .04	21	4
Withdrew	9	9
TOTALS:	356	182
Did Not Return	50	167
Mean GPR	1.60	1.78

Characteristics of Survivors

Of major concern is the identification of characteristics which help to identify those probation students who will survive as compared to those who do not survive for at least three semesters of college work. One group to be analyzed consists of 173 students who were in school for at least the first three semesters. Table 3 shows the percentile rank distributions for clear, probation, and suspension status students after three continuous semesters in college.

Perusal of this table reveals that students "in the clear" had ranks averaging 50.8 percentile rank in high school class compared to 48.0 for students on probation and 47.6 for students suspended at the end of three semesters. These means tend to discriminate only slightly in favor of students who are clear. The ranges in ranks are quite similar, except that none of the suspended students had ranked above the 84th percentile.

The distribution of percentile ranks for the ACT composite test showed no discrimination in favor of students who were "in the clear". The ranges of clear, probation, and suspended students are similar, and the suspended students had an average percentile rank of 46.3 on the ACT test compared to 45.9 for clear students.

In summary, the high school rank and ACT test scores did not greatly distinguish between clear, probation, and suspended students at the end of the third semester of study.

TABLE 3

Percentile Rank Distributions: Rank in High School Class and ACT Composite Score by Status of Surviving 1969 Entering Freshmen After Three Semesters

Percentile Rank Category	High School Class Rank			ACT Composite Score		
	Status			Status		
	Clear	Probation	Suspension	Clear	Probation	Suspension
95 - 99	1					
90 - 94				1	2	2
85 - 89	2	1		2		4
80 - 84	1		2	2		6
75 - 79	2		3	1		2
70 - 74	6	1	3	7	1	3
65 - 69	5	3	10			
60 - 64	5	1	5	8	1	9
55 - 59	6	1	7	5	3	7
50 - 54	7	2	10	2		10
45 - 49	6	3	9			
40 - 44	5	2	8	8	2	7
35 - 39	5	2	7	2	1	7
30 - 34	1	2	10	6	2	4
25 - 29	4	2	11	1	1	1
20 - 24	5		1	9		6
15 - 19	2			5	2	10
10 - 14	1		1	3	2	2
5 - 9		1	1			4
0 - 4					1	1
No ACT				3	3	3
TOTALS	64	21	88	64	21	88
Mean Percentile	50.8	48.0	47.6	45.9	42.3	46.3

Predictors of Academic Success

The following pages present evidence to indicate which student characteristics help to distinguish those students who will show some academic success after three semesters in school, which will continue for as many as three semesters, and which will drop by the wayside before three semesters, among the 413 freshmen placed on probation at the end of one semester during 1969-70. The first variable considered is high school percentile rank. Table 4 presents mean ranks for men and women separately in each of nine status categories including drops, suspensions, probations, and students cleared of probation. We may note that the women in this distribution had significantly higher average ranks than men. The lowest mean ranks were for students suspended after two semesters, while the highest overall rank was for students cleared after two semesters, excepting those who dropped after a semester. A total of 73 or 17.7% of the 413 students had cleared probation by the end of three semesters. Only 21 more students were still on probation.

TABLE 4

Mean Percentile Rank in High School Class For Freshmen Entering Fall, 1969 And Placed on Probation After One Semester, by Later Status Category

Category	Men Mean	Men No. Cases	Women Mean	Women No. Cases	Total Mean	Total No. Cases
1. Failed to return after one semester	46.5	33	62.4	15	51.4	48
2. Withdrew during 2nd semester	42.5	15		0	42.5	15
3. Suspended after two semesters	35.3	63	31.9	7	35.0	70
4. Completed 2nd semester, probation; did not re-enroll	44.9	56	48.7	32	46.3	88
5. Dropped during third semester	35.8	6	61.7	3	44.4	9
6. Suspended after three semesters	46.0	65	49.2	23	46.8	88
7. On probation after three semesters	47.6	16	49.6	5	48.1	21
8. Cleared after three semesters	50.0	52	54.4	12	50.8	64
9. Cleared after two semesters	45.3	6	54.0	3	48.3	9
TOTALS	44.1	312	51.0	100	45.7	412

The high school rank data are presented by quintile rank and probation status category in Table 5. Here we see that only 21 students, or about 5% ranked in the 80-99 quintile, while another 81, or 19.2%, ranked in the 60-79 quintile.

For the purpose of statistical analysis, the data of Table 5 are combined into three status categories in Table 6. Students who withdrew or were suspended by the end of two semesters were placed in one group, including all of categories 1,2,3 and 4. The second group included all who entered the third semesters, including drops, suspensions, and probations, but not those who were "in the clear." The third group, categories 8 and 9, had cleared probation at the end of the second or third semester. Only 73 students had cleared probation, or 17.7%.

Table 6 shows the bivariate distribution by high school quintile rank and the three categories described above. The chi-squared test of independence of the two

variables was applied, and expected values, assuming independence, are shown in parentheses. Among those who cleared probation, more than the number expected has ranked in the highest three quintiles. Exactly the reverse is true of those who were out of school by the end of two semesters. Since the chi-squared value is greater than the minimum significant chi-square value at the 5% level, we may conclude that there is a positive relationship between high school rank and success in clearing probation.

TABLE 5

High School Quintile Rank Distribution by Later Status Category:
1969 Freshmen Placed on Probation After One Semester

Category	H. S. Quintile 80-99	60-79	40-59	20-39	0-19	Totals
1. Failed to return after one semester	5	10	19	13	1	48
2. Withdrew during 2nd semester	0	4	5	3	3	15
3. Suspended after two semesters	5	4	17	24	20	70
4. Completed 2nd semester, probation; did not re-enroll	2	16	39	26	5	88
5. Dropped during third semester	1	2	2	2	2	9
6. Suspended after three semesters	2	21	34	29	2	88
7. On probation after three semesters	1	5	8	6	1	21
8. Cleared after three semesters	4	18	24	15	3	64
9. Cleared after two semesters	1	1	4	3	0	9
TOTALS	21	81	152	121	37	412

TABLE 6

Expected and Observed Distributions: High School Percentile Rank Categories by Later Status; Entering Freshmen, 1969-70, on Probation After One Semester

Percentile Rank Category	Withdrew or Were Dropped After Two Semesters: Categories 1,2,3,4	Dropped, Were Suspended, or Were on Probation After Three Semesters: Categories 5,6,7	Cleared Probation After Two or Three Semesters: Categories 8,9	Totals
80 - 99	12 (11.3)	4 (6.0)	5 (3.7)	21
60 - 79	34 (43.4)	28 (23.2)	19 (14.4)	81
40 - 59	80 (81.6)	44 (43.5)	28 (26.9)	152
20 - 39	66 (64.9)	37 (34.7)	18 (21.4)	121
0 - 19	29 (19.8)	5 (10.6)	3 (6.6)	37
TOTALS	221	118	73	412

$x^2 = 16.2523$ $P(x^2 \geq 15.507, 8 \text{ d.f.}) = .05$ Reject chance

A second variable, sex, has been related to the three major success category groups in Table 7. Again the chi-squared test was applied to see if either men or women tend to be more successful in clearing probation. Since the expected and observed values are in every case almost identical, and since the chi-squared value is only 0.8267, we may reject chance and conclude that men and women are equally successful in clearing probation.

TABLE 7

Distribution of 1969-70 Entering Freshmen (Placed on Probation After One Semester) by Sex and Later Status Category

Status Categories	Men	Women	Totals
1,2,3,4	167 (167.7)	55 (54.3)	222
5,6,7	87 (89.1)	31 (28.9)	118
8,9	58 (55.1)	15 (17.9)	73
TOTALS	312	101	413

$x^2 = 0.8267$ P = about .60, 2 d.f. accept chance

Another possible set of predictors of the success of students placed on probation is the ACT subscores and composite scores. The scores themselves are not available for this study; the available data were ACT percentiles. Table 8 shows the mean percentile rank for the probation students in each of the nine previously described categories, on each subtest and composite score. Since Stevens Point students rank above the national mean on all scores except the English subtest, it is easy to see that the probation students rank well below the university average. The composite scores of 389 of these students averaged at the 45th percentile, while the mean for the English subtest was below the 39th percentile. The best performance was that on the natural science subtest: averaging 50.5. Oddly enough, students who cleared probation did not do better than others on these tests when the means alone are considered. Also, students who cleared probation in three semesters did average consistently higher on the tests than those who cleared probation in two semesters.

TABLE 2

Mean ACT Percentile Rank for Freshmen Entering Fall, 1969 and Placed on Probation After One Semester, by Later Status Category

Status Category	English	Mathematics	Soc. Science	Nat. Science	Composite	No. Cases
1. Failed to return after one semester	42.8	51.2	43.8	48.3	46.0	46
2. Withdrew during 2nd semester	34.3	47.3	52.9	59.3	48.7	15
3. Suspended after two semesters	39.9	46.2	51.4	56.6	48.9	65
4. Completed 2nd semester, probation; did not re-enroll	36.2	45.7	37.4	45.4	40.6	81
5. Dropped during third semester	44.0	36.7	43.4	36.1	38.0	7
6. Suspended after three semesters	39.3	47.2	46.2	53.1	45.8	85
7. On probation after three semesters	37.6	39.6	37.7	52.4	42.4	18
8. Cleared after three semesters	38.5	47.4	47.1	48.5	46.2	63
9. Cleared after two semesters	32.9	47.1	39.6	46.2	41.0	9
TOTALS	38.7	46.7	44.8	50.5	45.0	389

For the purpose of statistical analysis, the percentile ranks for scores on the ACT subtests are distributed by decile rank and enrollment category. Tables 9 and 10 show the distributions for the English ACT subtest. Table 9 shows the distribution for all nine categories. Table 10 combines and groups the categories in the manner previously done, and shows expected values for each cell, assuming independence of the variables. The chi-squared value of 6.2334 (8 d.f.) indicates no relationship between English ACT quintile rank and probation status.

TABLE 9

ACT English Quintile Rank Distribution by Later Status Category; 1969 Freshmen Placed on Probation After One Semester

Category	ACT English Quintile 80-99	60-79	40-59	20-39	0-19	Totals
1. Failed to return after one semester	3	7	11	19	6	46
2. Withdrew during 2nd semester	0	1	5	3	6	15
3. Suspended after two semesters	2	10	19	20	14	65
4. Completed 2nd semester, probation; did not re-enroll	1	8	21	34	17	81
5. Dropped during third semester	0	2	2	2	1	7
6. Suspended after three semesters	4	10	23	29	19	85
7. On probation after three semesters	0	5	2	7	4	18
8. Cleared after three semesters	1	10	10	31	11	63
9. Cleared after two semesters	0	0	2	4	3	9
TOTALS	11	53	95	149	81	389

TABLE 10

Expected and Observed Distributions: English ACT Percentile Categories by Later Status: Entering Freshmen 1969-70 on Probation After One Semester

Percentile Rank Category	Withdrew or Were Dropped After Two Semesters: Categories 1,2,3,4	Dropped, Were Suspended, or Were on Probation After Three Semesters: Categories 5,6,7	Cleared Probation After Two or Three Semesters: Categories 8,9	Totals
80 - 99	6 (5.9)	4 (3.1)	1 (2.0)	11
60 - 79	26 (28.2)	17 (15.0)	10 (9.8)	53
40 - 59	56 (50.6)	27 (26.8)	12 (17.6)	95
20 - 39	76 (79.3)	38 (42.1)	35 (27.6)	149
0 - 19	43 (43.1)	24 (22.9)	14 (15.0)	81
TOTALS	207	110	72	389

$x^2 = 6.2334$ $P(x^2 \geq 6.2334, 8 \text{ d.f.}) = \text{about } .55$ accept chance

Tables 11 and 12 show similar distributions for the probation students' scores on the ACT mathematics subtest. The expected values of Table 12 are shown in parentheses. The chi-squared value shown in Table 12 indicates that the deviations of expected and observed values may be due to chance, since chance might provide deviations that are great more than ten per cent of the time.

TABLE 11

ACT Mathematics Quintile Rank Distribution by Later Status Category; 1969 Freshmen Placed on Probation After One Semester

Category	ACT Mathematics Quintile 80-99	60-79	40-59	20-39	0-19	Totals
1. Failed to return after one semester	6	13	9	16	2	46
2. Withdrew during 2nd semester	1	5	3	3	3	15
3. Suspended after two semesters	7	13	16	17	12	65
4. Completed 2nd semester, probation; did not re-enroll	8	19	16	29	9	81
5. Dropped during third semester	0	2	2	2	1	7
6. Suspended after three semesters	9	27	14	17	18	85
7. On probation after three semesters	1	5	2	3	7	18
8. Cleared after three semesters	7	15	12	20	8	62
9. Cleared after two semesters	1	1	4	2	1	9
TOTALS	40	100	78	109	61	388

TABLE 12

Expected and Observed Distributions: Mathematics ACT Percentile Categories by Later Status: Entering Freshmen 1969-70 on Probation After One Semester

Percentile Rank Category	Withdrew or Were Dropped After Two Semesters: Categories 1,2,3,4	Dropped, Were Suspended, or Were on Probation After Three Semesters: Categories 5,6,7	Cleared Probation After Two or Three Semesters: Categories 8,9	Totals
80 - 99	22 (21.3)	10 (11.4)	8 (7.3)	40
60 - 79	50 (53.4)	34 (28.4)	16 (18.2)	100
40 - 59	44 (41.6)	18 (22.1)	16 (14.2)	78
20 - 39	65 (58.2)	22 (30.9)	22 (20.0)	109
0 - 19	26 (32.5)	26 (17.2)	9 (11.2)	61
TOTALS	207	110	71	388

$x^2 = 12.6135$ $P(x^2 \geq 13.362, 8 \text{ d.f.}) = .10$ accept chance

The distribution of ACT Social Science scores by enrollment category is presented in Tables 13 and 14. The modal score of all probation students again falls in the 20-39 quintile, as shown in Table 13. Even in Categories 8 and 9 a fair proportion of the students who cleared probation had ranked in the 0-19 (lowest) decile on the ACT social science test. The chi-squared value of 9.3865 was such that it would occur by chance more than 30 per cent of the time. Thus we may conclude that the social science scores are not a significant predictor of which probation students will survive.

TABLE 13

ACT Social Science Quintile Rank Distribution by Later Status Category: 1969 Freshmen Placed on Probation After One Semester

Category	ACT Social Sciences Quintile 80-99	60-79	40-59	20-39	0-19	Totals
1. Failed to return after one semester	2	10	14	12	8	46
2. Withdrew during 2nd semester	2	4	5	3	1	15
3. Suspended after two semesters	8	18	15	19	5	65
4. Completed 2nd semester, probation; did not re-enroll	3	8	21	34	15	81
5. Dropped during third semester	1	1	0	5	0	7
6. Suspended after three semesters	11	12	24	24	14	85
7. On probation after three semesters	2	2	3	5	6	18
8. Cleared after three semesters	8	16	10	20	9	63
9. Cleared after two semesters	0	2	2	3	2	9
TOTALS	37	73	94	125	60	389

TABLE 14

Expected and Observed Distributions: Social Science ACT Percentile Categories by Later Status: Entering Freshmen 1969-70 on Probation After One Semester

Percentile Rank Category	Withdrew or Were Dropped After Two Semesters: Categories 1,2,3,4	Dropped, Were Suspended, or Were on Probation After Three Semesters: Categories 5,6,7	Cleared Probation After Two or Three Semesters: Categories 8,9	Totals
80 - 99	15 (19.7)	14 (10.5)	8 (6.8)	37
60 - 79	40 (38.8)	15 (20.6)	18 (13.5)	73
40 - 59	55 (50.0)	27 (26.6)	12 (17.4)	94
20 - 39	68 (66.5)	34 (35.4)	23 (23.1)	125
0 - 19	29 (31.9)	20 (17.0)	11 (11.1)	60
TOTALS	207	110	72	389

$x^2 = 9.3865$ $P(x^2 \geq 9.524, 8 \text{ d.f.}) = .30$ accept chance

The probation students, like students in general, did better on the natural science subtest than on any other. Although more of them ranked in the middle quintile than anywhere else a substantial number of scores (89) fell in the 80-99 quintile. When the scores are related to success in clearing probation, as shown in Table 16, the students who cleared probation did not rank high on the test more frequently than was expected. The chi-squared value is 11.2972, something that would occur 20% of the time by chance. Hence probation status and ACT natural science quintiles are independent (unrelated) for first semester probation students.

TABLE 15

ACT Natural Science Quintile Rank Distribution by Later Status Category; 1969 Freshmen Placed on Probation After One Semester

Category	ACT Natural Science Quintile 80-99	60-79	40-59	20-39	0-19	Totals
1. Failed to return after one semester	7	6	16	14	3	46
2. Withdrew during 2nd semester	4	4	5	1	1	15
3. Suspended after two semesters	20	10	14	16	5	65
4. Completed 2nd semester, probation; did not re-enroll	12	9	21	28	11	81
5. Dropped during third semester	0	0	4	2	1	7
6. Suspended after three semesters	24	10	27	14	10	85
7. On probation after three semesters	5	3	4	1	5	18
8. Cleared after three semesters	16	3	18	18	9	64
9. Cleared after two semesters	1	1	3	2	2	9
TOTALS	89	46	112	96	47	390

TABLE 16

Expected and Observed Distributions: Natural Science ACT Percentile Categories by Later Status: Entering Freshmen 1969-70 on Probation After One Semester

Percentile Rank Category	Withdrew or Were Dropped After Two Semesters: Categories 1,2,3,4	Dropped, Were Suspended, or Were on Probation After Three Semesters: Categories 5,6,7	Cleared Probation After Two or Three Semesters: Categories 8,9	Totals
80 - 99	43 (47.2)	29 (25.1)	17 (16.7)	89
60 - 79	29 (24.4)	13 (13.0)	4 (8.6)	46
40 - 59	56 (59.4)	35 (31.6)	21 (21.0)	112
20 - 39	59 (51.0)	17 (27.0)	20 (18.0)	96
0 - 19	20 (24.9)	16 (13.3)	11 (8.8)	47
TOTALS	207	110	73	390

$x^2 = 11.2972$ $P(x^2 \geq 11.030, 8 \text{ d.f.}) = .20$ accept chance

The distribution of ACT Composite quintiles for the probation students by enrollment category is shown in Table 17. The quintiles are related to category groups in Table 18 where expected and observed numbers may be compared. Complete data are available for only 389 of the 413 cases.

Perusal of Table 18 brings some surprises and contradictory findings. The chi-squared value of 16.7412 with 8 degrees of freedom leads us to reject chance as an explanation of the discrepancies between expected and observed values. The 60-79 quintile rank for ACT Composite score is in the favored position, since 19 students in that category were in the clear compared to the expected number of about 13. Next most favorable was the 20-39 quintile, while the 40-59 quintile produced the lowest proportion of "clear" students. In spite of the somewhat contradictory findings, there is some indication that ACT Composite score does tend to be a positive

predictor of success of probation students in clearing probation. Two forces appear to be operating to produce the contradictions. Some of the students who ranked low in ACT performance no doubt entered the university knowing that they had limited ability, but were determined to persist in school. Students in the 0-19 quintile had fewer immediate drops than expected, and more of them persisted to the third semester of work than would be expected. In the end, the number who cleared probation was fewer than expected, but not so many fewer because of their persistence in school. This tendency countered the composite score's predictiveness.

TABLE 17

ACT Composite Quintile Rank Distribution by Later Status Category; 1969 Freshmen Placed on Probation After One Semester

Category	ACT Composite Quintile 80-99	60-79	40-59	20-39	0-19	Totals
1. Failed to return after one semester	3	3	25	11	4	46
2. Withdrew during 2nd semester	0	6	5	1	3	15
3. Suspended after two semesters	7	12	21	21	4	65
4. Completed 2nd semester, probation; did not re-enroll	2	12	27	24	16	81
5. Dropped during third semester	0	1	2	3	1	7
6. Suspended after three semesters	12	14	24	18	17	85
7. On probation after three semesters	2	2	5	4	5	18
8. Cleared after three semesters	5	17	15	18	8	63
9. Cleared after two semesters	0	2	2	4	1	9
TOTALS	31	69	126	104	59	389

TABLE 18

Expected and Observed Distributions: Composite ACT Percentile Categories by Later Status: Entering Freshmen 1969-70 on Probation After One Semester

Percentile Rank Category	Withdrew or Were Dropped After Two Semesters: Categories 1,2,3,4	Dropped, Were Suspended, or Were on Probation After Three Semesters: Categories 5,6,7	Cleared Probation After Two or Three Semesters: Categories 8,9	Totals
80 - 99	12 (16.4)	14 (8.8)	5 (5.8)	31
60 - 79	33 (36.8)	17 (19.5)	19 (12.8)	69
40 - 59	78 (67.0)	31 (35.6)	17 (23.3)	126
20 - 39	57 (55.4)	25 (29.4)	22 (19.2)	104
0 - 19	27 (31.4)	23 (16.6)	9 (11.0)	59
TOTALS	207	110	72	389

$x^2 = 16.7412$ $P(x^2 \geq 15.507, 8 \text{ d.f.}) = .05$ reject chance

The college of original enrollment was taken as another possible predictor of success in clearing probation. Complete data are available for 410 of the 413 cases for Tables 19 and 20, relating enrollment category to college of original enrollment. The few cases where no college or division was indicated were arbitrarily included under "education", including kindergarten-primary and intermediate-upper elementary designates. Table 19 shows college distribution for all nine categories. Table 20 shows only three category groups by college, with expected values indicated for each cell.

Although the letters and science and fine arts colleges had more than the expected number of students who cleared probation, the differences shown in Table 20 may be attributable to chance, since they could occur by chance about 20% of the time. Applied arts and sciences majors had fewer students than expected who cleared probation. Thus we have not sufficient evidence that college of original enrollment is a

significant indicator of who will clear probation.

TABLE 19

College of Original Enrollment Later Enrollment Category	College				
Category	Letters & Science	None, Education	Applied Arts & Science	Fine Arts	Totals
1. Failed to return after one semester	25	2	18	3	48
2. Withdrew during 2nd semester	9	0	5	1	15
3. Suspended after two semesters	36	0	30	4	70
4. Completed 2nd semester, probation; did not re-enroll	32	13	35	6	86
5. Dropped during third semester	4	1	3	1	9
6. Suspended after three semesters	38	3	45	2	88
7. On probation after three semesters	7	2	12	0	21
8. Cleared after three semesters	35	2	22	5	64
9. Cleared after two semesters	4	1	3	1	9
TOTALS	190	24	173	23	410

TABLE 20

Expected and Observed Distributions: Colleges of Original Enrollment by Probation Category Group

College of First Entrance	Categories 1,2,3,4	Categories 5,6,7	Categories 8,9	Totals
Letters & Science	102 (101.5)	49 (54.7)	39 (33.8)	190
Education, None	15 (12.8)	6 (6.9)	3 (4.3)	24
Applied Arts & Sciences	88 (92.4)	60 (49.8)	25 (30.8)	173
Fine Arts	14 (12.3)	3 (6.6)	6 (4.1)	23
TOTALS	219	118	73	410

$x^2 = 8.7550$ $P(x^2 \geq 8.558, 6 \text{ d.f.}) = .20$ accept chance

Still another piece of information available on student records is the year of birth. Tables 21 and 22 were prepared to test the hypothesis that age upon entrance relates to the success of freshmen placed on probation. Of 407 cases included, 304 were born in 1951. The distributions of Table 22 tend to favor freshmen born in 1951, but the differences between expected and observed values are so small that 20% of the time they may be expected to occur by chance. If indeed year of birth does make a difference, perhaps it suggests that students who are a little older were less able and had therefore lost as much as a year by the time they completed grade twelve. We must, however, accept chance sampling as the explanation for the observed differences.

TABLE 21

Year of Birth by Later Enrollment Status: 1969 Entering Freshmen On Probation After One Semester

Enrollment Status	Year of Birth 1951	1950	Other	Total
1. Failed to return after one semester	32	11	3	46
2. Withdrew during 2nd Semester	7	6	2	15
3. Suspended after two semesters	47	18	5	70
4. Completed 2nd semester, probation; did not re-enroll	70	16	0	86
5. Dropped during third semester	7	0	2	9
6. Suspended after three semesters	73	13	2	88
7. On probation after three semesters	11	6	4	21
8. Cleared after three semesters	50	12	1	63
9. Cleared after two semesters	7	1	1	9
TOTALS	304	83	20	407

TABLE 22

Expected and Observed Distributions: Year of Birth by Enrollment Status

Enrollment Status Category	Year of Birth 1951	1950	Other	Total
1,2,3,4	156 (162.1)	51 (44.2)	10 (10.7)	217
5,6,7	91 (88.1)	19 (24.1)	8 (5.8)	118
8,9	57 (53.8)	13 (14.7)	2 (3.5)	72
TOTALS	304	83	20	407

$x^2 = 5.2642$ $P(x^2 \geq 5.989, 4 \text{ d.f.}) = .20$ accept chance

High school class size is hypothesized as another predictor, since it has been found to relate to success at this institution on other occasions. Students in the nine enrollment categories are shown in Table 23 by high school class size category. Here we see that the smallest mean class size (167.8) is for category 9, students who were in the clear after two semesters. The largest mean class size (340.1) was that for students in category 2, students who withdrew during the second semester.

Table 24, prepared for statistical analysis, divides the enrollment categories into three groups, and shows the number of persons by high school size category in each group. Expected values, assuming independence of class size and enrollment status, are shown for all cells. When the chi-squared test is applied to this bivariate table, the likelihood that chance sampling would produce such a relatedness is less than one chance in a thousand. The crucial difference is found to be that between class sizes 51-100 (most favored) and 101-250 (least favored). Since schools with class size 1-25 are almost extinct in Wisconsin, these students, few in number, came from outside the state. On the basis of the evidence in Table 24, we may conclude that probation students from high schools of about 200 to 400 students have the best chance of clearing probation. Students from schools somewhat above 400 students have the least chance, other factors being equal. The difference in mean per-

centile ranks between these two groups is negligible. High school size is an important predictor of which students will clear probation.

TABLE 23

Distribution of Probation Freshmen by Later Enrollment Status and High School Class Size Category

Enrollment Status Category	Mean Class Size	High School Class Size Category							
		1-25	26-50	51-100	101-250	251-500	501-750	Over 750	Totals
1. Failed to return after one semester	224.9	0	5	8	19	10	6	0	48
2. Withdrew during 2nd semester	340.1	1	0	1	3	8	1	1	15
3. Suspended after two semesters	256.6	0	6	4	33	15	10	1	69
4. Completed 2nd semester, probation; did not re-enroll	237.1	3	8	7	37	23	10	0	88
5. Dropped during third semester	280.3	0	0	1	4	2	2	0	9
6. Suspended after three semesters	253.1	0	3	19	29	28	5	4	88
7. On probation after three semesters	308.3	0	1	3	7	6	1	3	21
8. Cleared after three semesters	250.6	0	4	15	17	20	8	0	64
9. Cleared after two semesters	167.8	0	1	3	3	2	0	0	9
TOTALS		4	28	61	152	114	43	9	411

TABLE 24

Expected and Observed Distributions: High School Class Size by Later Enrollment Category

High School Class Size Category	Withdrew or Were Dropped After Two Semesters: Categories 1,2,3,4	Dropped, Were Suspended, or Were on Probation After Three Semesters: Categories 5,6,7	Cleared Probation After Two or Three Semesters: Categories 8,9	Totals
1 - 25	4 (2.2)	0 (1.1)	0 (0.7)	4
26 - 50	19 (15.0)	4 (8.0)	5 (5.0)	28
51 - 100	20 (32.7)	23 (17.5)	18 (10.8)	61
101 - 250	92 (81.4)	40 (43.6)	20 (27.0)	152
251 - 500	56 (61.0)	36 (32.7)	22 (20.3)	114
501 - 750	27 (23.0)	8 (12.4)	8 (7.6)	43
Over 750	2 (4.8)	7 (2.6)	0 (1.6)	9
TOTALS	220	118	73	411
MEAN CLASS SIZE	247.6	265.0	240.3	

$x^2 = 38.6274$ $P(x^2 \geq 32.909, 12 \text{ d.f.}) = .001$ reject chance

Finally, the mean grade point for the first semester in college is related to later school status in order to determine whether or not those who started with a low average had as much likelihood of clearing probation as did others nearer the 1.60 average. Table 25 shows the distribution by first semester grade point category and enrollment category. The average grade point for the nine enrollment status categories are also shown, and we note that the lowest average (1.18) was for category 3: students suspended after two semesters. The highest average (1.38) was for Categories 7 and 9, with category 8 close behind. The more successful students had generally started with a higher average.

Table 26 shows expected and observed distributions for the bivariate table of first semester grade point and later enrollment status. Upon application of the chi-squared test, we reject chance at the .001 level and conclude that the grade point earned during the first semester is highly related to success in clearing probation. The table also supports this conclusion by showing the per cent of each grade point category who were in the clear by the end of three semesters. Of the students whose grade point for the first semester in college was 0.75 to 0.99, only 4 of 66, or 6.1% cleared probation, compared to 11.8% in the 1.00-1.19 category, 15.9% in the 1.20-1.39 category, and 26.8% in the 1.40-1.59 category. In all, only 17.7% of the freshmen placed on probation after the first semester of 1969-70 had cleared probation by the end of three semesters. Only another 5% were still in school on probation.

TABLE 25

Grade Point Distributions, First Semester, For 1969 Entering Freshmen Placed on Probation After Semester, by Later Enrollment Category

Enrollment Category	Grade Point Category 0.75-0.99	1.00-1.19	1.20-1.39	1.40-1.59	Totals	Mean GPR
1. Failed to return after one semester	13	7	14	15	49	1.20
2. Withdrew during 2nd semester	3	1	8	3	15	1.20
3. Suspended after two semesters	14	21	19	15	69	1.18
4. Completed 2nd semester, probation; did not re-enroll	15	18	26	29	88	1.24
5. Dropped during third semester	1	2	1	5	9	1.27
6. Suspended after three semesters	16	15	22	35	88	1.25
7. On probation after three semesters	0	3	5	13	21	1.38
8. Cleared after three semesters	4	8	16	36	64	1.36
9. Cleared after two semesters	0	1	2	6	9	1.38
TOTALS	66	76	113	157	412	

TABLE 26

Enrollment Category 1969 of Entering Freshmen on Probation After One Semester, by First Semester Grade Point Ratio Category

Grade Point Category	Later Enrollment Category Groups: Categories 1,2,3,4	Categories 5,6,7	Categories 8,9	Totals	Per Cent In Clear by 3 Semesters
0.75 - 0.99	45 (35.4)	17 (18.9)	4 (11.7)	66	6.1
1.00 - 1.19	47 (40.8)	20 (21.8)	9 (13.4)	76	11.8
1.20 - 1.39	67 (60.6)	28 (32.4)	18 (20.0)	113	15.9
1.40 - 1.59	62 (84.2)	53 (45.0)	42 (27.8)	157	26.8
TOTALS	221	118	73	412	
MEAN GPR	1.21	1.28	1.36		

$x^2 = 26.3989$ $P(x^2 \geq 22.457, 6 \text{ d.f.}) = .001$ reject chance

SUMMARY AND CONCLUSIONS

After the first semester of 1969-70, 413 freshmen who had entered U.W.-Stevens Point in the fall were placed on probation, with grade point ratios ranging from 0.75 to 1.59. After three semesters 73, or 17.7%, had cleared probation and another 5% were still on probation. The rest had dropped from school or were suspended. This study was made to determine the chances of survival of such probation students, and to find which student characteristics are related to survival. The following characteristics were found not to be significantly related to academic survival: sex, ACT subtests of English, mathematics, social science, and natural science, college of first entrance, and year of birth. The ACT composite score did relate to success status at the 5% level, but the relationship was not consistently positive. The high school percentile rank was significant as a predictor of success at the 5% level, although probation students generally tended to have ranked quite low.

High school class size was highly predictive of success in clearing probation, with students from class size 51-100 most likely to clear probation, and students from class size 101-250 least likely. Other deviations observed from expected values might be attributable to chance sampling.

Finally, the grade point ratio for the first semester in school was an important indicator of success in clearing probation, at the .001 level of statistical significance. Only about six per cent of the students with GPR below 1.00 the first semester were able to clear probation in three semesters. The percentage improved to 26.8% for those whose first semester GPR was 1.40 to 1.59.

No attempt was made to determine the success of students who remained out of school for a semester and then returned to school. However, previous research has revealed that students who stayed out of school one or more semesters after being dropped and later returned to school did much better than students who were given a

drop and then were immediately readmitted.[1]

In view of the very slim odds that freshmen who earn a low grade point the first semester will ever succeed in college, and because of evidence that those dropped are more likely to succeed in school if they return later than those permitted to remain in school, it seems reasonable to drop such students at once instead of permitting them to continue in school on probation. Certainly, for freshmen who earn a grade point of 0.75 to 1.39 during the first semester, permitting them to staying in school without dropping out for at least a semester is a cruel hoax. It tells them they have a reasonable chance of making good when in fact they have very little chance. Those who want to try again can return at a time when they are more likely to succeed.

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[1] William H. Clements, "Forced Withdrawal in the Schools of Applied Arts and Sciences, and Letters and Science, at WSU-Stevens Point: Its Relationship to Certain Characteristics of Recent Graduates." Office of Institutional Research, Volume I, Number 4, June 1967.